



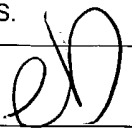
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,945	06/21/2001	Phillip S. Wilson	P281188	6284
909	7590	07/30/2004	EXAMINER	
PILLSBURY WINTHROP, LLP P.O. BOX 10500 MCLEAN, VA 22102			SALVATORE, LYNDIA	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/868,945	<b>Applicant(s)</b> WILSON, PHILLIP S.	
	<b>Examiner</b> Lynda M Salvatore	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Response to Amendment***

1. Applicant's request for continuing examination (RCE), amendment and accompanying remarks filed 05/12/04 have been fully considered and entered. Claim 1 has been amended as requested. Claims 6-10 have been withdrawn from consideration as non-elected. Presently claims 1-5 remain pending. Despite this advance, Applicant's amendments have not been found to patentably distinguish the claims over the prior art combination of Okada et al., US 4,739,007 in view of Christiani et al., US 5,747,560 and Applicant's arguments are not found persuasive of patentability for reasons set forth herein below.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al., US 4,739,007 in view of Christiani et al., US 5,747,560.

Applicant amended claim 1 to recite the reinforcing particles are "up to" about 30 layers thick and argues that at least some of reinforcing particles of the instant invention are not completely exfoliated. In contrast, Applicant asserts that the prior art of record requires that the reinforcing particles achieve complete or almost complete exfoliation. This argument is not found persuasive on the grounds that Christiani et al., does not teach that all of the particles are completely delaminated (or exfoliated). Specifically, Christiani et al., teaches that at least 80% by weight of the layers of the material delaminate (or exfoliate) to form platelet particles substantially homogenously dispersed in the polymer matrix (Column 21, 39-47). Christiani et

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al., teaches that the platelet particles are preferably about 1 to 2 layers in thickness. Additionally, Christiani et al., teaches that in a preferred embodiment some layers will not delaminate (or exfoliate) in the polymer melt and will form platelet particles comprising those layers in a coplanar aggregate. Said platelet particles constitute nanoscale and nanodispersed fillers which provide enhanced properties over and above those provided by conventional micro-scale fillers as long as they are less than about 10 layers thick (Column 21, 50-67). With regard to the limitation of "up to" 30 layers thick the Examiner is interpreting said limitation to mean values from 0 to 30. As such, the Examiner maintains that the combination of prior art made of record teaches all the limitations set forth in claims 1-3.

To reiterate, the patent issued Okada et al., discloses a composite material comprising a polymer matrix and layers of silicate uniformly dispersed within said matrix material (Abstract). Okada et al., teaches that the silicate layers have a thickness ranging from .7-1.2 nm thick (Column 2, 22-29). The amount of silicate layers dispersed in the polymer matrix ranges from .5 to 150 parts by weight per 100 parts by weight of the polymer matrix (Column 3, 44-50).

Okada et al., fails to explicitly state the exact number of layers, however, the patent issued to Christiani et al., teaches a nanocomposite comprising a polymer matrix material having uniformly dispersed platelet particles (Column 3, 20-25). Christiani et al., teaches that the number of platelet particle layers are preferably less than about 5 layers in thickness, most preferably about 1 or 2 layers in thickness (Column 6, 55-64).

Therefore, motivated to provide a layered particle composite it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the teachings of Christiani et al., and form a composite material with less than about 5 layers in thickness.

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With regard to the protrusion limitation, Christiani et al., teaches that composite articles may further embossed (Column 24, 45-50). Embossing would produce the recited protrusions in claim 1. As to the height and thickness limitation of the embossed protrusion, it is the position of the Examiner that these features are dependent on the desired end use of the composite and easily determined by one of ordinary skill in the art.

With regard to claim 2, Christiani et al., teaches molding the composite into a variety of shapes such as panels and sheets. Christiani et al., further teaches laminating the sheets and panels to other materials such as plastic films (Column 24, 43-49).

With regard to claim 3, Christiani et al., does not explicitly teach the type of plastic film used, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made use a polypropylene film, or other thermoplastic polyolefin since these materials are commonly used in the field of films. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al., US 4,739,007 in view of Christiani et al., US 5,747,560 as applied to claim 1, and further in view of Simm et al., US 4,447,488.

The combined references of Okada et al., and Christiani et al., fail to teach adhering a textile material to the reinforced molded article, however, the patent issued to Simm et al., teaches a shaped article comprising a synthetic resin and optional additives such as silicate fillers (Column 1, 8-15 and Column 4, 5-10). As discussed above Christiani et al., teaches laminating the sheets and panels to other materials such as plastic films (Column 24, 43-49). The shaped

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articles taught by Simm et al., are suitable for use as bumpers and decorative moldings (Column 48-52). Simm et al., also teaches joining the shaped articles to other materials such as glass mats and textile fabrics (Column 7, 25-28).

Therefore, motivated to provide a decorative composite it would have been obvious to one having ordinary skill in the art at the time the invention was made to adhere textile fabrics as taught by Simm et al., to the composite structure of Okada et al., and Christiani et al.

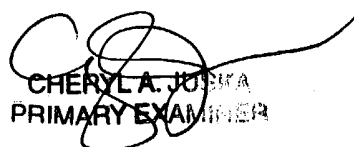
***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1482. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 21, 2004  
ls

  
CHERYL A. JOSHUA  
PRIMARY EXAMINER